

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claims 1-15 are cancelled.

16.(currently amended)        A method for fabricating a magnetic tunnel junction (MTJ) cell, said cell having a narrow dimension at its middle whereat artificial nucleation sites for magnetization switching are formed and said cell having an easy axis of magnetization passing longitudinally through said middle, thereby producing a fanning mode of magnetization vectors at opposite peripheral edges of said cell and, as a result, said cell having a lowered switching field threshold and a reduced sensitivity to defects and shape irregularities comprising:

forming an MTJ layered stack, the magnetic layers of said stack having a common crystalline anisotropy and common easy axis of magnetization;

patterning within said stack, by ~~photolithograpy~~ photolithography and ion-milling methods, at least one MTJ cell having a narrow dimension at its middle, said dimension being transverse to the direction of said easy axis of magnetization .

17.(original)    The method of claim 16 wherein the method of forming the MTJ stack further comprises:

forming a ferromagnetic free layer;

forming an insulating tunneling layer on said free layer;

forming a multi-layered magnetically pinned layer on said tunneling layer, said pinned layer formation further comprising:

forming a first ferromagnetic layer adjacent to said tunneling layer;

forming a non-magnetic coupling layer on said first ferromagnetic layer;

forming a second ferromagnetic layer on said coupling layer;

forming an antiferromagnetic pinning layer on said second ferromagnetic layer,

wherein said multi-layered magnetically pinned layer has a net magnetic moment which is substantially zero as a result of the magnetic moments of said first and second ferromagnetic layers being substantially equal and strongly magnetically coupled in an anti-parallel configuration.

18.(original) The method of claim 17 wherein said free magnetic layer is formed as a multilayer comprising a third and fourth ferromagnetic layer separated by a non magnetic spacer layer and wherein the magnetizations of said ferromagnetic layers may be weakly or strongly coupled in antiparallel directions.